UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,030	04/20/2001	Yukihito Ichikawa	WATK:211	9377

27890 7590 07/05/2007

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER	
LEUNG, JENNIFER A	
ART UNIT	**PAPER NUMBER**
1764	

MAIL DATE	DELIVERY MODE
07/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/830,030	ICHIKAWA ET AL.	
	Examiner	Art Unit	
	Jennifer A. Leung	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2007 and 18 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-32,34 and 36* is/are pending in the application.

4a) Of the above claim(s) *12-15,19-32 and 34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-11,16-18 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1,4-32,34 and 36* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Jennifer A. Leung
6/29/2007

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on April 18, 2007, after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2007 has been entered.

Response to Amendment

2. Applicant's amendment submitted on February 28, 2007 has been received and carefully considered. Claims 2, 3, 33 and 35 are cancelled. Claims 12-15, 19-32 and 34 are withdrawn from consideration. Claims 1, 4-11, 16-18 and 36 are under consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8, 9 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamada (JP 05-123580).

Regarding claim 36, Hamada (see FIGs. 3(a), (b), (c); Abstract; machine translation) discloses a honeycomb structure **1** comprising a plurality of cell passages, said cell passages being mutually parallel in a channel direction, wherein,

(1) intersection portions between walls partitioning said cell passages have a

predetermined pitch at cross-sections perpendicular to said cell passages and are formed in a pattern (see FIG. 3(a));

(2) first wall face portions of said walls excluding said intersection portions have an undulated shape in both the cell passage direction and the cross-sectional direction perpendicular to said cell passage direction (see FIGs. 3(a) and 3(b)); and

(3) second wall face portions having a flat shape alternating with said first wall face portions having an undulated shape (see FIGs. 3(a) and 3(c); section [0022]).

Regarding claim 8, the cell passages formed by said wall face portions of said walls having an undulated shape and cell passages defined by said wall face portions of said walls having a flat shape coexist in a discontinuous manner (see FIG. 3(a)).

Regarding claim 9, the honeycomb structure has a center portion (i.e., "center section") surrounded by an outer portion (i.e., "periphery section"), the center portion comprising cell passages defined by undulated wall face portions; the outer portion comprising cell passages defined by flat wall face portions, the thickness of the wall **3** of the cell passages at the outer portion is greater than that of the wall **4** of the cell passages at the center portion (see, for example, sections [0019] and [0021]; FIGs. 3(a), (b)).

Instant claims 8, 9 and 36 structurally read on the apparatus of Hamada.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 4, 6, 7, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (JP 05-123580) in view of Gulati (US 4,323,614).

Regarding claims 1, 4 and 7, Hamada discloses a honeycomb structure having a plurality of cell passages defining a cell passage direction which are mutually parallel in the cell passage direction; wherein intersection portions between walls defining said cell passages have a predetermined pitch in cross-sections perpendicular to said cell passages and are located in a pattern and wherein the wall face portions of said walls excluding said intersection portions have an undulated shape in both the cell passage direction and the cross-sectional direction perpendicular to said cell passage direction (see, e.g., abstract, Figs. 1-3, machine translation).

The apparatus of Hamada is substantially the same as that of the instant claims, but is silent as to whether the protrusions of each wall face portion face one another and the recessions of each face one another as claimed.

Gulati, however, teaches cell passages having wall face portions of an opposing pair of walls each having an undulated shape, such that the recessions and protrusions on one wall face portion and the recessions and protrusions on the other face portion are positioned with the protrusions facing one another and the recessions facing one another (see, e.g., FIGs. 2-4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the apparatus of Hamada so as to have the protrusions of each wall face portion facing one another and the recessions of each wall face portion facing one another, as taught by Gulati, on the basis of its suitability for the intended use as a matter of obvious design choice. The shape of the cell passages is not considered to confer patentability to the claim and since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47

(CCPA 1966). Furthermore, one of ordinary skill in the art would have been motivated to configure the wall portions in the honeycomb structure of Hamada according to the configuration taught by Gulati, because such a configuration allows for the honeycomb structure to readily accommodate deformation due to thermal or mechanical stress in planes normal to the longitudinal axis of the cells (see, e.g., Gulati: column 1, lines 5-11; column 2, lines 23-47).

Regarding claim 6, the amplitude of the undulated wall appears to be at least 150% the thickness of the wall (see Hamada, for example, Figs. 1-2). Hamada also discloses that the amplitude may be such that the wave height is 0.5 mm or more (see section [0020]). Although an amplitude of at least 150% of the thickness of the wall is not specifically stated, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select an appropriate amplitude for the undulations relative to the thickness of the walls, on the basis of suitability for the intended use thereof, because where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller, 105 USPQ 233.*

Regarding claim 10, Hamada discloses that the honeycomb structure may be made from a variety of materials, including ceramics and activated carbon (see section [0032]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to select a claimed material (e.g., ceramics such as cordierite or alumina, etc., or an activated carbon such as adsorbent activated charcoal) for forming the honeycomb structure in the modified apparatus of Hamada, on the basis of suitability for the intended use thereof, because the claimed materials are conventional in the art as honeycomb making.

Regarding claim 16, discloses that the honeycomb structure has an undulated surface for

increasing the surface area, and may carry a catalyst on the surface thereof for purifying exhaust gas (see section [0020]). Placing the honeycomb structure in a housing (e.g., when incorporated as a converter; see section [0044]) is inherent therein.

5. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (JP 05-123580) in view of Gulati (US 4,323,614), as applied to claims 1, 10 and 16 above, and further in view of Abe et al. (US 5,459,119).

The modified apparatus Hamada is substantially the same as that of the instant claims, but is silent as to the specific wall thickness and porosity.

Abe et al., however, teaches a honeycomb structure having the wall thickness and porosity as claimed in the instant claims (see column 7, lines 31-46).

The specific wall thickness and porosity of the honeycomb structure are not considered to confer patentability to the claim. The precise wall thickness and porosity of the honeycomb structure would have been considered a result effective variable by one having ordinary skill in the art. As such, without more, the claimed wall thickness and porosity of the honeycomb structure cannot be considered "critical". Accordingly, one having ordinary skill in the art would have routinely optimized the wall thickness and porosity of the honeycomb structure in the modified apparatus of Hamada to obtain the desired purification thereof, as suggested by Abe et al (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (JP 05-123580) in view of Gulati (US 4,323,614), as applied to claims 1 and 16 above, and further in

view of Sugita et al. (JP 10-059784).

The collective teaching of Hamada and Gulati is silent as to the honeycomb structure having the instantly claimed cell density.

However, Sugita et al. teaches the provision of an undulated-wall honeycomb structure having a plurality of cell passages, wherein the cell density is normally 280 cpsi (see abstract).

It would have been obvious to one having ordinary skill in the art to select an appropriate cell density, such as the cell density taught by Sugita et al., for the honeycomb structure in the modified apparatus of Omura, in order to obtain the desired purification thereof on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

7. Claims 1, 4, 7, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura (JP 61-68141) in view of Gulati (US 4,323,614).

Regarding claims 1, 4 and 7, Omura discloses a honeycomb structure having a plurality of cell passages defining a cell passage direction, which are mutually parallel in the cell passage direction; wherein intersection portions between walls defining said cell passages have a predetermined pitch in cross-sections perpendicular to said cell passages and are located in a pattern and wherein the wall face portions of said walls excluding said intersection portions have an undulated shape in both the cell passage direction and the cross-sectional direction perpendicular to said cell passage direction (see, e.g., abstract, Figs. 2, 4; translation).

The apparatus of Omura is substantially the same as that of the instant claims, but is

silent as to whether the protrusions of each wall face portion face one another and the recessions of each face one another as claimed.

Gulati, however, teaches cell passages having wall face portions of an opposing pair of walls each having an undulated shape, such that the recessions and protrusions on one wall face portion and the recessions and protrusions on the other face portion are positioned with the protrusions facing one another and the recessions facing one another (see, e.g., FIGs. 2-4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the apparatus of Omura so as to have the protrusions of each wall face portion facing one another and the recessions of each wall face portion facing one another, as taught by Gulati, on the basis of its suitability for the intended use as a matter of obvious design choice. The shape of the cell passages is not considered to confer patentability to the claim and since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Furthermore, one of ordinary skill in the art would have been motivated to configure the wall portions in the honeycomb structure of Omura according to the configuration taught by Gulati, because such a configuration allows for the honeycomb structure to readily accommodate deformation due to thermal or mechanical stress in planes normal to the longitudinal axis of the cells (see, e.g., Gulati: column 1, lines 5-11; column 2, lines 23-47).

Regarding claim 10, Omura further discloses that the honeycomb structure is made of ceramic material, such cordierite, aluminum titanate, etc. (see, e.g., translation page 4).

Regarding claim 16, Omura further discloses that the honeycomb structure has an

undulated surface for increasing the surface area, to carry a catalyst on the surface thereof for purifying exhaust gas. Placing the honeycomb structure in a housing is inherent therein (i.e., the honeycomb structure is to be employed in an automobile vehicle for exhaust gas purification, which must inherently comprise a housing for the honeycomb structure; see page 2, lines 1-3 of translation).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura (JP 61-68141) in view of Gulati (US 4,323,614), as applied to claim 1 above, and further in view of Yutake et al. (GB 2,071,640) and Maus et al (WO 96/12876 corresponding to US 6,274,099).

The modified apparatus of Omura is substantially the same as that of the instant claim, but fails to teach whether the deformation is greater at the outer portion that at the center portion, e.g., so that the cell passages are essentially closed off.

Yutake et al. teaches the provision of a honeycomb structure having the channels in the outer region clogged for improving the thermal insulation.

Maus et al. teaches the provision of a honeycomb structure having deformation at the outer region to close channels in the peripheral region for improving the thermal insulation.

It would have been obvious to one having ordinary skill in the art to construct the modified honeycomb structure of Omura so as the deformation at the outer region is greater than that at the center region, so as to improve the thermal insulation of the structure as taught by Yutake et al. and Maus et al.

9. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura (JP 61-68141) in view of Gulati (4,323,614), as applied to claim1 above, and further in view of Sugita et al. (JP 10-059784).

Regarding claim 6, the modified honeycomb structure of Omura is substantially the same as that of the instant claims, but is silent as to the specific amplitude of the undulated walls.

However, Sugita et al. shows provision of an undulated-wall honeycomb structure having a plurality of cell passages wherein the wall face portions of said walls of said cell passages have an undulated shape, the amplitude of the undulated wall appears to be at least 150 % the thickness of the wall (see, for example, Fig. 1).

It would have been obvious to one having ordinary skill in the art to select an appropriate amplitude for the undulated walls, such as the amplitude suggested by Sugita et al., in the modified apparatus of Omura, to obtain the desired purification thereof on the basis of its suitability for the intended use as a matter of obvious design choice; and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Regarding claim 18, the modified honeycomb structure of Omura is substantially the same as that of the instant claims, but is silent as to the specific cell density.

However, Sugita et al. teaches the provision of an undulated-wall honeycomb structure having a plurality of cell passages, wherein the cell density is normally 280 cpsi (see abstract).

It would have been obvious to one having ordinary skill in the art to select an appropriate cell density for the honeycomb structure, such as the cell density taught by Sugita et al., in the modified apparatus of Omura, to obtain the desired purification thereof on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

10. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura (JP 61-68141) in view of Gulati (US 4,323,614), as applied to claims 1, 10 and 16 above, and further in view of Abe et al. (US 5,459,119).

The modified apparatus Omura is substantially the same as that of the instant claims, but is silent as to the specific wall thickness and porosity.

Abe et al., however, teaches a honeycomb structure having the wall thickness and porosity as claimed in the instant claims (see column 7, lines 31-46).

The specific wall thickness and porosity of the honeycomb structure are not considered to confer patentability to the claim. The precise wall thickness and porosity of the honeycomb structure would have been considered a result effective variable by one having ordinary skill in the art. As such, without more, the claimed wall thickness and porosity of the honeycomb structure cannot be considered "critical". Accordingly, one having ordinary skill in the art would have routinely optimized the wall thickness and porosity of the honeycomb structure in the modified apparatus of Omura to obtain the desired purification thereof, as suggested by Abe et al (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Response to Arguments

11. Applicant's arguments filed February 28, 2007 have been fully considered but they are not persuasive.

Comments regarding the rejection of claims 8, 9 and 36 under 35 U.S.C. 102(b) as being anticipated by Hamada (JP 05-123580)

Applicant (at page 16, lines 7-14) argues,

> "As discussed above herein, Hamada JP '580 does not disclose, teach or suggest second wall face portions which are not "synchronized," let alone walls having a flat shape alternating with said first wall face portions having an undulated shape.
>
> Thus, Hamada does not disclose all elements of applicant's claimed invention and therefore is not a proper basis for a rejection of applicants' claims under § 102. Nor does Hamada suggest applicants' claimed invention. Accordingly, claims 8 and 36 are not anticipated by Hamada, and applicants respectfully request withdrawal of this ground of rejection, and allowance of those claims."

The Examiner respectfully disagrees. In response to Applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which Applicant relies are not recited in the rejected claim(s). For instance, the argued feature of wall face portions that are not "synchronized", or a specific configuration for the protrusions or recessions of the undulated walls in the direction of flow through the cell passages, are not mentioned in claim 36. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, the Examiner asserts that the embodiment shown in FIGs. 3(a)-(c) structurally meets the limitation of "second wall face portions having a flat shape alternating with said first wall face portions having an undulated shape." For instance, looking at a given cell passage comprising both undulated and flat shape walls, the undulated walls and the flat shape walls "alternate" with one another, when counting the walls of the cell passage in a clockwise or counterclockwise direction (see FIG. 3(a)).

Comments regarding the rejection of claims 1, 4, 6, 7, 10 and 16 under 35 U.S.C. 103(a) as being unpatentable over Hamada (JP 05-123580) in view of Gulati (US 4,323,614)

Applicant (under item 2 on page 14 of the response) argues,

> "Hamada does not describe, teach, or suggest a honeycomb structure, wherein for each cell passage, the wall face portions of an opposing pair of walls each have an undulated shape, such that recessions and protrusions on one wall face portion and recessions and protrusions on the other wall face portion are positioned with the protrusions of each facing one another and the recessions of each facing one another.
>
> Instead, Hamada describes the formation of undulated walls in the center portion, thereby making the shape of the protrusion portions and recession portions of each wave face the same direction. Hamada describes a structure in which recessions and protrusions face one another in both the vertical and horizontal walls, which causes problems with purification capabilities associated with a stationary gas flow, which is distinguished from applicants' claimed invention (see specification, page 29, lines 9-15)."

However, Applicant's argument is not found persuasive, because one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, the feature being argued by Applicant (i.e., protrusions that face one another, and recessions that face one another) was taught by the secondary reference to Gulati.

Applicant (at page 15, lines 5-7) further argues,

> "... there is no disclosure or teaching in either Hamada or Gulati '614, that would have suggested the desirability of combining an portions of those references effectively to anticipate or render obvious applicants' claimed invention."

In response to applicant's argument that there is no suggestion to combine the references, the

examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the instant case, one of ordinary skill in the art would have been motivated to configure the wall portions in the honeycomb structure of Hamada according to the configuration taught by Gulati (i.e., to comprise protrusions that face each other, and recessions that face each other), because such a configuration allows for the honeycomb structure to readily accommodate deformation due to thermal or mechanical stress in planes normal to the longitudinal axis of the cells (see, e.g., Gulati: column 1, lines 5-11; column 2, lines 23-47).

Comments regarding the rejection of claims 11 and 17 under 35 U.S.C. 103(a) as being unpatentable over Hamada view of Gulati, as applied to claims 1, 10 and 16 above, and further in view of Abe et al. (US 5,459,119); and the rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Gulati, as applied to claims 1 and 16 above, and further in view of Sugita et al. (JP 10-059784).

Applicant's arguments with respect to the individual rejections are based on the asserted deficiencies in the combination of Hamada and Gulati (see item 3 on page 15 of the response). Thus, the same comments with respect to Hamada and Gulati, as stated above, apply herein.

Comments regarding the rejection of claims 1, 4, 7, 10 and 16 under 35 U.S.C. 103(a) as being unpatentable over Omura (JP 61-68141) in view of Gulati (US 4,323,614).

Applicant (beginning at the last paragraph on page 13) argues,

"Omura JP '141 does not describe, teach, or suggest a honeycomb structure

> wherein, for each cell passage, the wall face portions of an opposing pair of walls each have an undulated shape, such that recessions and protrusions on one wall face portion and recessions and protrusions on the other wall face portion are positioned with the protrusions of each facing one another and the recessions of each facing one another. Omura teaches only the formation of certain undulated walls to increase a contact area between gas and catalyst, but does not teach any specific arrangement of these walls.

However, Applicant's argument is not found persuasive, because one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, the feature being argued by Applicant (i.e., protrusions that face one another, and recessions that face one another) was taught by the secondary reference to Gulati.

Applicant (beginning at line 5 on page 14) argues,

> "Gulati fails to supply the deficiencies of Omura. Thus, there is no disclosure in Omura or Gulati that would have suggested applicants' claimed invention to one of ordinary skill in this art. Further, there is no disclosure or teaching in either Omura or Gulati, that would have suggested the desirability of combining any portions of those references effectively to anticipate or render obvious applicants' claimed invention."

The Examiner respectfully disagrees. Gulati specifically teaches the claimed configuration of cell passages having wall face portions of an opposing pair of walls each having an undulated shape, such that the recessions and protrusions on one wall face portion and the recessions and protrusions on the other face portion are positioned with the protrusions facing one another and the recessions facing one another (see, e.g., FIGs. 2-4). Please note that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure

of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Furthermore, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the instant case, one of ordinary skill in the art would have been motivated to configure the wall portions in the honeycomb structure of Omura according to the configuration taught by Gulati (i.e., to comprise protrusions that face each other, and recessions that face each other), because such a configuration allows for the honeycomb structure to readily accommodate deformation due to thermal or mechanical stress in planes normal to the longitudinal axis of the cells (see, e.g., Gulati: column 1, lines 5-11; column 2, lines 23-47).

Comments regarding the rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Gulati, as applied to claim 1 above, and further in view of Yutake et al. (GB 2,071,640) and Maus et al (WO 96/12876 corresponding to US 6,274,099); the rejection of claims 6 and 18 under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Gulati, as applied to claim 1 above, and further in view of Sugita et al. (JP 10-059784); and the rejection of claims 11 and 17 under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Gulati, as applied to claims 1, 10 and 16 above, and further in view of Abe et al. (US 5,459,119).

Applicant's arguments with respect to the individual rejections are based on the asserted deficiencies in the combination of Omura and Gulati (see item 3 on page 15 of the response). Thus, the same comments with respect to Omura and Gulati, as stated above, apply herein.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Outland, Mochida et al. and Gerhold are further cited to illustrate the state of the art.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung

Jennifer A. Leung
June 29, 2007